

WHAT IS CLAIMED IS:

1. A catheter introducer assembly, comprising:
 - 5 a) a needle assembly comprising a needle having a diameter, a proximal end, attached to a needle hub, a distal end extending therefrom, and a longitudinal axis therebetween, said needle further including a bent area disposed between said proximal and distal ends;
 - 10 b) a catheter assembly comprising a tubular catheter having proximal end attached to a catheter hub, and distal end, said introducer needle being coaxially received within said catheter;
 - 15 c) a needle tip protector disposed within said catheter hub, said needle tip protector is slidably disposed onto said needle, whereby when said needle is proximally removed from said catheter said protector remains attached to said needle.
- 20 2. The catheter introducer assembly of claim 1 wherein said bent area on said needle is angled 45 – 90 degrees away from its original direction.
3. The catheter introducer assembly of claim 1 wherein said needle diameter is constant between its distal and proximal ends.
- 25 4. The catheter introducer assembly of claim 1 wherein said needle further comprises of a sleeve.
- 30 5. The catheter introducer assembly of claim 5 wherein said sleeve is attached proximal to said bent area to help secure said needle in said protector when said needle is removed from said catheter.
6. A catheter introducer assembly, comprising:

- 5 a) a needle assembly comprising a hollow needle having an outer diameter, a proximal end, attached to a needle hub, a distal end extending therefrom, and a longitudinal axis therebetween, said needle further including a bent area disposed between said proximal and distal ends such that a longitudinal axis of said distal end of said needle is off set from a longitudinal axis of said proximal end of said needle.;
- 10 b) a catheter assembly comprising a tubular catheter having proximal end attached to a catheter hub, and distal end, said introducer needle being coaxially received within said catheter;
- 15 c) a needle tip protector disposed within said catheter hub, said needle tip protector is slidably disposed about said needle such that when said needle is proximally removed from said catheter said bent area prevents said needle tip protector from sliding off said needle so that said needle tip protector remains attached to said needle.
- 20 7. The catheter introducer assembly of claim 6 wherein said bent area on said needle is angled 45 – 90 degrees away from its original direction.
8. The catheter introducer assembly of claim 6 wherein said needle further comprises of a sleeve.
- 25 9. The catheter introducer assembly of claim 8 wherein said sleeve is attached proximal to said bent area to help secure said needle in said protector when said needle is removed from said catheter.
10. A catheter introducer assembly, comprising:
- 30 a) a needle assembly comprising a hollow needle having a proximal end, attached to a needle hub, a distal end extending therefrom, and a longitudinal axis therebetween and a constant outer diameter between said distal end proximal end, said needle further including a bent area disposed between said

proximal and distal ends such that a longitudinal axis of said distal end of said needle is off set from a longitudinal axis of said proximal end of said needle;

- 5 b) a catheter assembly comprising a tubular catheter having proximal end attached to a catheter hub, and distal end, said introducer needle being coaxially received within said catheter;
- 10 c) a needle tip protector disposed within said catheter hub, said needle tip protector is slidably disposed about said needle such that when said needle is proximally removed from said catheter said bent area prevents said needle tip protector from sliding off said needle so that said needle tip protector remains attached to said needle.
- 15 11. The catheter introducer assembly of claim 10 wherein said bent area on said needle is angled 45 – 90 degrees away from its original direction.
- 20 12. The catheter introducer assembly of claim 10 wherein said needle further comprises of a sleeve.
13. The catheter introducer assembly of claim 12 wherein said sleeve is attached proximal to said bent area to help secure said needle in said protector when said needle is removed from said catheter.